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Linguistic features of the reading process are described and used as a basis for some conclusions about the teaching of reading in a foreign language. For purposes of illustration, this discussion centers around the teaching of English reading skills to speakers of Japanese. The peculiarities of reading as a system of communication are outlined. Furthermore, assumptions are made about the problems involved in learning to read the alphabetic, syllabic, and logographic writing wystems, with special attention given to the English alphabet system. To assure genuine success in the later controlled and free reading stages of reading skill development, this article suggests methods of strengthening the preliminary instruction of the relationship of phonological patterns to the written representation of utterances through oral reading drills. (AF)

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The Linguistic Basis for the Development of Reading Skill

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THIS paper will examine some of the linguistic principles which underlie the nature of the reading process, and the pedagogical implications of these principles for the acquisition of true reading skill in a foreign language. The discussion will be centered specifically on the development of reading skill in English for speakers of other languages, although it seems quite clear that many of the following remarks will be equally applicable to the teaching of reading skill to native speakers of English. The principles to be discussed are implicit in the audio-lingual approach to the teaching of modern foreign languages, though in the matter of reading skill, especially, they are frequently and unconsciously overlooked. For our purposes here, it is not necessary to respond to the charge that the audio-lingual approach is unconcerned with the skills of reading and writing, since this is patently false. No intelligently planned language program will simply ignore the development of such skills.

In the pedagogy of language teaching, classroom procedures are always greatly enhanced when the instructor clearly understands their theoretical basis. Thus, for instance, mimicry-memorization and pattern practice methods become meaningful pedagogical activities for both teacher and learner when it is understood that the nature of human language itself dictates the need for these activities in the language learning process. The use of minimal pair drills in pronunciation exercises is a meaningful classroom technique when it is understood that the sounds of any language are perceived by the native speaker in terms of a system of acoustic oppositions which cannot be mapped directly in a one-to-one manner on to the system of oppositions of a second language. Similarly, classroom techniques that are devised for the effective teaching of reading skill must certainly be based on a realistic understanding of the nature of the reading process itself.

The Reading Process as a Communication Event

The communication that takes place between two speakers, and between an individual and a printed page, is similar in certain obvious respects. One is that relative ease of communication is dependent on the participant's control of the basic symbols in each of the two communication events. In a conversation, the basic symbols are both vocal and audible—probably for the speaker as well as for the hearer if we accept the supposition that the speaker is capable of monitoring his own speech. Control over these symbols means the ability to produce the vocal symbols in accordance with the conventions of the language being spoken, and the ability to perceive the audible symbols in accordance with the same conventions. The greater the productive and receptive mastery of these symbols, the greater the ease of communication.

In the reading process, the basic symbols are visual, vocal, and audible. The visual symbols of the writing system are perceived as graphic configurations, which are then converted into their appropriate and corresponding vocal symbols, and then presumably apprehended as audible symbols through the instantaneous process of monitoring. Direct apprehension of visual symbols, without the intermediary of vocal and audible symbols, seems unlikely—but this is no more than a conjecture.[1] In any case,

[1] An immediate objection here may be that so-called "silent reading" does not involve reaction to vocal and audible symbols. Even in silent reading, however, totally unfamiliar words frequently cause the reader to falter momentarily, and it is reasonable to assume that his hesitation results from his inability to react instantaneously to the correlation between the graphic symbols of the word and their corresponding vocal symbols. This suggests, in a negative way, that reaction to vocal and audible symbols is still very much a relevant feature of silent reading, but that the kinetic responses of the reader are far less perceptible when no interference occurs. Furthermore, it is difficult to imagine that a stage of skill in silent reading could even

once again, the greater the productive and receptive mastery of these symbols, the greater the ease of communication. All this is quite obvious.

Another similarity has to do with the basic nature of communication systems. In both types of communication events, conversation and reading, we must be concerned with the hearer's or the reader's perception of, and reaction to, conventional patterns of symbolic behavior. In the case of the hearer, he has learned, or must learn, to react to recurrent and contrastive acoustic configurations. These are the sound patterns and the intonation patterns of the language, which signal the grammatical and semantic structure of messages. In the case of the reader, he has learned, or must learn, to react to recurrent and contrastive graphic configurations. These are the letter or character patterns and their spatial arrangement on paper which are the conventions of his writing system, and which serve also to signal the grammatical and semantic structure of messages. In both cases, the behavioral reaction is one that is developed out of habit, so that responses to the stimuli are automatic.

When responses are not automatic, "static" gets into the communication channel and produces interference that may lead to either a partial or complete breakdown in the communication event. The responses may not be automatic because of (1) unfamiliarity with the configurational patterns themselves, or (2) deviations from the conventional patterns. A partial or complete breakdown in the communication event because of unfamiliarity with the configurational patterns is obvious; the only other factor here is the degree of unfamiliarity with either the spoken language or the writing system. With respect to deviations from the conventional patterns, the breakdown again may be partial or complete, depending on the degree of deviation. The pronunciation, intonation, and grammatical patterns of spoken English, for example, may be so distorted by a beginning student of the language as to hinder communication considerably. Partial breakdowns in communication occur frequently enough between speakers of geographically separated dialects of the same language. Depending again on the degree of deviation, the same may also be true of examples of written English. Aside from all other considerations, some breakdown in communication may take place in attempting to read the poetry of e e cummings, simply because of the poet's deliberate departures from the conventions of English punctuation, capitalization, and line arrangement.

The basic difference between the hearer's role and the reader's role lies in the nature of the primary symbols to which the participants must respond. The hearer perceives and reacts to acoustic images and configurations of sound waves, i.e. to audible symbols and their patterning. The reader, on the other hand, must react initially to graphic images and configurations, i.e., to visual symbols and their patterning. But the reader has the more difficult task to perform because the reading process involves the manipulation of visual as well as vocal and audible symbols, while the hearer must manipulate only vocal and audible symbols. The primary symbols of speech are vocal, while the primary symbols of writing are visual, though based ultimately on the vocal symbols of speech. This distinction serves to designate writing as a derivative, though highly stylized system of communication, which in most cultures is also highly prestigious. The symbols of a writing system are secondary in the sense that they "stand for" the vocal symbols of speech, which in turn "stand for" events in the real world. It is most important to recognize that the characters that are used in a writing system represent forms in the spoken language, and not events or things in the real world directly. In fact we do not speak of a writing system at all until it can be shown that the characters used in the system symbolize entities in the spoken language, rather than ideas, events, or things. In this view, for example, it is preferable to speak of the Chinese writing system as a *logographic* system instead of a *pictographic* system, since

be gained without prior experience in "close" reading, i.e., with concentrated attention to the graphic images on the page. "Speed reading" techniques which demand that the reader should learn to react to successive "patches" of printed material, somewhat in the manner of one who views an enormous tapestry from too short a distance, may properly be excluded from this consideration of reading. In fact, it is doubtful if the term "reading" should even be used to cover such situations.

its characters represent Chinese words, not events or things on the Chinese scene, or ideas in the minds of the Chinese people. These distinctions are important because they serve to link writing inescapably to speech, and by so doing, to relate the reading process to the recurrent and contrastive patterns of the spoken language.

If writing systems are secondary systems of communication based ultimately on the spoken language, then the graphic configurations of writing systems are essentially shorthand devices for representing entities in the chain of speech. These devices may be *logograms*, which symbolize words (as in the Chinese system), or *characters*, which symbolize syllables (as in the Japanese orthography), or *letters*, which symbolize phonemes or morphophonemes (as in the English writing system). The efficiency of a writing system is largely dependent on the *number* of graphic devices that must be used to represent the forms of the spoken language. Since the number of morphemes in any language is indefinitely large, it is clear that logographic systems are less efficient than syllabic or alphabetic systems. Conversely, because phonemic systems consist of a relatively small and closed set of entities, alphabetic systems, which theoretically are constructed in terms of a one-to-one correspondence of letters to phonemes, are most efficient. In actual practice, however, no alphabetic system ever used has achieved this degree of efficiency, with the exception of the phonemic transcriptions used by linguists—and even in such cases, a phonemic transcription does not always reflect all the layers of relevant structure in the phonological system of a particular language.

Moreover, no writing system is a perfectly pure example of either a logographic, syllabic, or alphabetic orthography. English, for example, makes use of graphic devices which sometimes represent phonemes (e.g., the spelling *big* for the sequence of phonemes /big/, or the spelling *side* for the phonemic sequence /sayd/ in which the discontinuous device *i-e* represents /-ay-/), sometimes morphophonemes (e.g. *-ed* as in *picked*, *climbed*, *wanted* for /-t, -d, -id/), and sometimes words and phrases (e.g. *4* for the word "four" or *etc.* for the phrase "and so forth").

The efficiency of a writing system is also very much dependent on the *fit* between the graphic devices of the orthography and the elements of the spoken language which have signaling status in the linguistic system. In this respect again, alphabetic systems fare better than other types of writing systems; but even so, they are woefully inadequate with regard to some features of the spoken language. Thus, for instance, very few alphabetic orthographies have adequate devices for representing suprasegmental or prosodic features consistently. Degrees of adequate fit are also to be observed in the ways in which different alphabetic systems handle segmental features. Spanish, for example, and Japanese (in its romanization) reveal a fairly high degree of fit between the graphic devices used and the segmental phonemes of the languages. Modern English shows a lesser degree of adequate fit in its orthography than did Old English, largely because of the conservative rate of change in English printing practices as compared to the rate of change in English phonology itself.

Assumptions and Variables

If the reading process, then, is essentially one of vocal response to visual stimuli, and if the efficiency of a writing system is determined principally by the number of graphic devices which it uses and the adequacy of fit of those devices with the symbolized entities of the spoken language, then it is reasonable to suppose that (1) it is easier to learn to read an alphabetic writing system than either a syllabic or a logographic system, and (2) it is easier to learn to read Spanish, for example, than English. Such conclusions cannot be accepted without qualification, however, since (1) they are probably correct for native speakers of the languages in question, but not for non-native speakers, and (2) they fail to take into consideration the conditioning of the individual to certain, but not all, types of graphic configurations. What is assumed here simply is that the native speaker of English learns to read English more easily than the Chinese speaker learns to read Chinese, because of the different types of writing systems involved. Furthermore, the native speaker of Spanish learns to read his language more easily than the native speaker of English does his, because of the difference in

adequacy of fit between the writing systems and the spoken languages involved.

The problem of learning to read a particular writing system is compounded as more variables complicate the situation. The principal variables that concern us here are the following:

1. the learner's command of the spoken language represented by the writing system,
2. the nature of the writing system itself,
3. the relative adequacy of fit of the writing system to the spoken language,
4. the learner's past conditioning to the graphic configurations of the writing system, including not only the size and shape of the characters themselves, but also the linear direction that the characters follow.

All of these variables must be dealt with, to a greater or lesser extent, in the foreign language teaching situation.

By way of illustration and comment, let us consider each of these variables with respect to the Japanese-English situation, where English is the target language. Of the four variables, the second and the fourth are the least serious, while the first is the most serious. On the surface the second would appear to be a major problem because of the obvious contrast in nature between the Japanese and English writing systems. The former is basically a logo-syllabic system, the latter basically an alphabetic system. But, on the basis of the assumptions made above, the direction of learning is from an inherently more difficult system to an inherently easier system, i.e. from logograms and a syllabary to an alphabet, with the consequent reduction in the number of graphic devices to be learned, even though the functioning of those devices is different. This latter problem may also be assumed to be a relatively easy matter to deal with, because of one other fortunate factor. This is the Japanese adult's probable familiarity with the romanization system, which is an alphabetic orthography so that the letters function as symbols of phonemes or morpho honemes, and not as symbols of syllables or morphemes. The question here has to do, not so much with the Japanese adult's adeptness in using the romanization system, but merely with the fact of his exposure to a system of writing which makes use of the same kind of contrastive graphic symbols as those used in the English alphabet.

The same argument can be used to dismiss the fourth variable as a serious problem for the Japanese learner of English. Assumed familiarity with the romanization will presumably facilitate the Japanese learner's task of coping with the graphic devices of the English writing system. We should not, of course, underestimate this problem in those cases where the student has had no previous exposure to the configurations of English writing. It will be necessary in these instances to make provision in the total language learning program for basic practice in manipulating the written symbols of the orthography.

Let us assume that, through exposure to the romanization, the Japanese learner of English is familiar with the alphabetic nature of the English writing system and the conventional graphic configurations of English writing. The third variable, the adequacy of fit of the English orthography to the phonemic entities of the spoken language, now presents a far more serious problem. This problem is, of course, no different from that faced by the English-speaking child who is beginning the task of learning to read his native language. The problem is more than one of simply learning how to spell English words and to punctuate English sentences correctly. It is also a reading problem because the graphic devices of the English orthography are visual stimuli which should elicit the appropriate vocal responses of the reading process. Such responses must be *instantaneous* and *automatic* if the individual is to read with comprehension at a normal rate of speed. It is reasonable to expect, moreover, that the process of learning to produce such instantaneous and automatic responses will be facilitated when the visual cues to the vocal symbols are clear and consistent.

However, it is precisely because of the divergence between English spelling and punctuation practices and English pronunciation and intonation features that the problem of learning to read the English writing system is more difficult than learning to read, for example, the Spanish orthography or the romanization for Japanese. While it is not true that English spelling practices are as chaotic as some would

have us believe, it is still obvious that the many inconsistencies between spelling and pronunciation make the reading of English a particularly troublesome problem for the native speaker of English as well as for the foreign learner of English. Examples are not hard to cite. The phonemes /θ/ and /ð/, for instance, are both represented by the digraph *th*, as in *thin* and *then*. The same sequence of letters, moreover, is also used to represent the sequence of phonemes /-th-/, as in *porthole*. The fairly consistent use of the letters *ng* to represent the phoneme /ŋ/ is disrupted in words like *finger* and *longer*, where the same letters signal the sequence of phonemes /-ŋg-/. The phoneme /k/ is adequately represented by the letter *k* in *kitten*, *kind*, *kingdom*, etc., but is also represented by *c* in *cat*, *cot*, *cut*, *cauldron*, and by *q* in the consistent use of *qu* for /kw-/ in *queen*, *queer*, *bequeath* and *quiet* (but not *quart*, *quarter*). *Sh* rather regularly signals /š/ in *sheik*, *shambles*, *show*, etc., but not in *sure*, *sugar*, *surely*, *assure*, or in *action*, *revolution*, *convulsion*, etc. The letter *x* is superfluous, representing /-ks-/ in *execute*, /-gz-/ in *exact*, and /z/ in *xylophone*.

Even more inconsistencies can be observed in the representation of the vowel phonemes of English. Thus, the phonemic sequence /iy/ is symbolized by *ee* in *meet*, *ea* in *meat*, *e-e* in *mete*, *ei* in *receive*, *ie* in *field*. The letters and letter combinations *igh*, *i-e*, *eigh*, *y*, *ye*, *ie*, and *i*, among others, all represent the phonemic sequence /ay/, as in *might*, *side*, *height*, *why*, *rye*, *lie*, and *liar*. The letters *i* and *e* in *bird* and *mercy* represent the same stressed syllabic, /i/. The low back vowel /ɔ/ may be spelled *a* as in *call*, *augh* as in *caught*, *ou* as in *court*, *aw* as in *awful*, etc. The letter *a* frequently represents /æ/ as in *fat*, *hat*, *apple*, but not in *apron*, *father*, or *ball*.

Many more inconsistencies between English sounds and English spellings could be cited to give the impression that spelling practices in English border on total chaos. However, such an impression would be misleading because, even within this apparent unpredictability, certain patterns of regularity can still be noted. For example, the *gh* digraph after vowel letters almost always designates a non-syllabic glide following a stressed vowel, although it does not specify in all cases which of the three glides of English is to be understood. Thus, in *weigh* the *gh* represents the front glide /y/, in *bough*, *through*, and *thorough* the back glide /w/, and in *bought* and *caught* the centralizing glide /h/. In these terms it would be possible to construct a statement of partial complementary distribution of the entities which *gh* symbolizes in the English orthography, but we should still have to contend with such anomalies as *rough* and *tough*.

Similarly, certain patterns of regularity could be described for the use of discontinuous graphic devices like *e-e* and *i-e*, and also for the doubling of consonant letters, to represent the preceding stressed syllabic as either a simple nucleus or a complex nucleus. Note the following, for example: *bit-bite*, *quit-quite*, *sit-site*, *wit-w(h)ite*, *bid-bide*, *chid-chide*, *Sid-side*, *rid-ride*, *hid-hide*, etc. Or the following: *later-latter*, *riding-ridding*, *scraping-scrapping*, *robing-robbing*, *ruder-rudder*, etc. Both the inconsistencies in English spelling practices and the observable patterns of regularity can be explained in historical terms, but this has no bearing whatsoever on the problem of learning to read present-day English writing in accordance with the conventions and features of modern English phonology.

With respect to the representation of suprasegmental or prosodic features, the English writing system is probably no worse off than most other standard orthographies. Inconsistency is more commonly the rule than the exception, though again, this is an overstatement because certain regularly recurring patterns of correspondence between features of intonation and graphic devices are readily observable. Thus, English sentence-level units are consistently marked by the use of such devices as space, capitalized letters, and end punctuation symbols. Moreover, there are probably no instances in written English where the symbols for period, colon, and semi-colon (., :, ;) do not represent the downturn in pitch and voice-fade that are the acoustic correlates of the terminal juncture /#/. For the rest, we can only speak of relative frequency of correspondence. The question mark (?) often signals a final upturn in pitch which characterizes the terminal juncture /‖/, but may also signal /#/. Compare the following utterances:

1. Are you a student? (polite inquiry)
2. Are you a student? (stern demand for information)
3. You're a student? (inquiry, perhaps with some disbelief)
4. What's your name? (polite inquiry)
5. What's your name? (stern demand for information)
6. Would you like coffee or tea? (something to drink?)
7. Would you like coffee, or tea? (indicate preference)

Similarly, the comma symbol (,) may at times represent any one of the three terminal junctures of English. Conversely, there are numerous instances where no comma symbol is used, but where in fact one of the three junctures does occur with regularity in the spoken form of the utterance. A common occurrence of this is between the grammatical subject and predicate of a sentence, when the subject is a reasonably long structure. For example:

8. The first crossing which is paved leads north. /²ðə fîrst krôsiŋ wìčiz³ péyvd²| ²lîydz ³nɔ́rθ¹#/

It is an editorial convention of written English that a comma is never inserted in this position, but in fact students who have been taught to put in commas where they "hear pauses" frequently do so, much to the chagrin of composition teachers. In certain types of embedded structures, moreover, it is also editorial convention to insist upon commas in places where terminal junctures seldom occur, but where the juncture does occur at a point preceding the comma. For example:

9. It is common knowledge that, if we are to learn to speak another language well, we must spend a great deal of time practicing it.

The beginning of this sentence is usually read: /ìtiz kâmin nálîj/ðætif wìy artə lîrn . . #/. In this sentence, the first terminal juncture occurs after "knowledge" (where there is no comma), no juncture occurs after "that" (where editorial convention demands a comma), and a juncture will occur after "well" (where there is also a comma, i.e. an instance of correspondence between graphic device and phoneme).

Space itself is an important graphic symbol, though its relationship to the reading process is sometimes overlooked. In written English, space, when it co-occurs with either a following capitalized letter or a preceding end punctuation mark, or both, presents no problem: it functions as part of the boundary marker of sentence-level units. Within the sentence it functions as the boundary marker of words, and this is where it does present problems: first, because the "word" itself is open to suspicion as a phonological unit; secondly, because there is no one-to-one correspondence between space and the phoneme of internal juncture (which it sometimes represents); and thirdly, because space frequently differentiates forms and constructions which are grammatically and phonologically identical, or fails to differentiate forms and constructions which are grammatically and phonologically dissimilar. By way of illustration, consider the following sentences:

10. He opened the new store.
11. He opened the drug store.
12. He opened the greenhouse.
13. It's under a tack.
14. It's under attack.

The use of space in 10 and 11 is identical, yet the constructions "new store" and "drug store" are grammatically and phonologically different. "New store" is recognized as an adjective +noun construction with an entirely different stress pattern from that on "drug store," a nominal compound. In 11 and 12, "drug store" and "greenhouse" occur under identical stress patterns and are identically analyzed as nominal compounds, yet the use of the space symbol suggests that they are different. Sentences 13 and 14 illustrate the well known fact that in English, as well as in many other languages, internal junctures do not consistently co-occur with morpheme boundaries. For most speakers of English, the two sentences are homophonous: they would probably be produced as /²ìts ənd ərə ³tǽk¹#/. But, again, the use of space in 13 suggests that it is different from 14. Finally, to relate the linguistic fact that the *word* is not a legitimate phonological unit to the problem that space, as a graphic device, can sometimes cause in the reading process is to pinpoint one of the most crucial problems in the development of reading skill.

The terms *word* and *sentence* are, of course, the two terms about language which are most familiar to the layman. Everyone knows that sentences are composed of words and that words can be identified easily by looking them up in a dictionary. Everyone knows what words and sentences are—except, paradoxically, the linguist. He alone seems to be out of step with the rest of the literate world.

The difficulty that the linguist encounters in his attempt to define such apparently basic terms as *word* and *sentence* stems from two sources. One is his insistence that speech and writing must be distinguished, that the former is *language* and the latter a highly stylized way of representing utterances. If there were no need to make this distinction, then there would be no difficulty in defining words and sentences. Words could be defined as groups of letters which occur between white space, and sentences could be defined as groups of words which occur between end punctuation marks, or the like. In practice, these are the criteria used by the layman who asserts that he knows very well what words and sentences are. Such criteria, however, are inadmissible for the linguist, who takes speech to be the primary manifestation of language, and who must therefore seek to define the units of speech by using vocal symbols as the only relevant criteria.

The second source of difficulty for the linguist is the lack of consistent defining characteristics which can indisputably differentiate *words* and *sentences* from other definable linguistic units. For example, on the surface it would seem that a phoneme of internal juncture would be a likely marker of word boundaries, but this is an impossible criterion since internal junctures frequently occur within what we would like to call words (e.g. *potato* /pə+téytə/). Similarly, any attempt to define words on the basis of their potential for inflection is thwarted, at least for English, because of the occurrence of phrasal suffixes such as the possessive morpheme in *the king of England's crown* or *the boy around the corner's mother*. Lack of consistency in the application of either phonological or syntactic criteria also accounts for the difficulty in defining *sentence* as a linguistic unit.

More immediate to the problem of teaching reading skill is the fundamental fact that written words do not consistently correspond to speech forms in any one-to-one fashion. The failure to recognize the crucial importance of this fact for the reading process typically reflects a lack of understanding of the relationship between speech and writing, and consequently a lack of awareness of the relevance of phonological features to the skill of reading with speed and comprehension. An extreme result of this neglect of phonological signals in the teaching of reading is the "word-centered" approach, which treats reading as a process of identifying words as citation forms. Recognition of the inadequacy of this approach has led to an insistence on reading "meaningful" groups of words, though the procedures for helping the learner to recognize "meaningful groups of words" are nebulous and inconsistent.

The one successful attempt to cope with the problem of inadequate fit between English spelling practices and the actual pronunciation of English words is the approach which is known as *phonics*. This approach is based on several correct assumptions about the relationship of writing to speech. These assumptions include: (1) the recognition that written words are a secondary representation of spoken forms, (2) the recognition of the essentially alphabetic nature of English orthography, and (3) the recognition of patterns of correspondence between sound and symbol within the apparent unpredictability of English spelling practices. The regular and most frequently occurring patterns of regularity are presented to the learner first, then the irregular and less common patterns. Thus, the vowel letters *a*, *e*, *i*, *o*, and *u* are presented first as the visual symbols of the simple vowel phonemes /æ e i a ə/. The correspondence is one of high frequency of occurrence, especially in the largely monosyllabic vocabulary that children normally encounter first. The young learner is taught to react to the correspondence in sets of words such as the following:

a /æ/	e /e/	i /i/	o /a/	u /ə/
bat	bet	bit	pot	but
hat	get	hit	hot	hut
cat	let	sit	lot	cut
tag	leg	dig	fog	rub
fast	best	list	lock	dust

Simple sentences, utilizing words which have been presented in the correspondence sets, are

then constructed for reading. For example, in a lesson in which the correspondence between the letter *a* and the phoneme /æ/ has been taught, a sentence such as *The cat sat on the mat* might be part of the reading material.

The approach has much to recommend it for the systematic development of word recognition and spelling skill, but unfortunately it is little more effective than indiscriminate exposure to English orthographic practices when we consider the primary objectives in teaching reading skill. The principal weakness of the approach, at least as it is commonly practiced, is that it is still "word-centered", and consequently fosters in the learner an inordinate attention to words as primary units arrayed end-to-end like a row of blocks. The result is that, while children may learn to recognize words quickly, they also learn to read the linear sequences of words as though they were indeed identifying a series of blocks, a practice which will most assuredly and most quickly destroy the normal child's potential ability to read with appropriate speed and comprehension. A second weakness stems from the first. Just because the approach is basically "word-centered", it tends to ignore the differing phonemic shapes of words when they occur under varying degrees of stress in actual sentences. Compare, for example, the form *had* in the following sentences:

15. Tad had a bag in his hand.
    /tæ̂d hæ̂d . . . /
16. Tad had been sad before.
    /tæ̂did bin . . . /

The alternation between /hæ̂d/ in 15 and /id/ in 16 is not a matter of alternation between formal and informal levels of style, since both are perfectly acceptable standard forms, differing not in style, but only in phonemic shape under differing conditions of stress. This type of alternation, the production of which is so crucial to the development of appropriate reading skill, is not typically recognized by the phonics approach. In so far as the recognition of words under major stress is an essential feature of the development of reading skill, phonics has been both useful and successful. But ultimate success in acquiring adequate reading skill depends very largely on the learner's ability to alter the phonemic shape of words under differing stress conditions, to relate clusters of words to appropriate intonation contours and to produce such clusters in accordance with the rhythmic features of the spoken language. In all of these details, the phonics approach has been quite disappointing.

Returning now to the four variables mentioned above, it has been suggested that the most serious variable which must be considered in teaching students to read a particular writing system is the students' command of the spoken language represented by the system. Such a statement seems obvious, but it is worth commenting on briefly.

A fair criticism of most approaches to the teaching of reading to native speakers of English is that neither the materials nor the teaching procedures seem to capitalize on the child's ability to speak his language with extraordinary skill—especially his ability to manipulate the intonational and rhythmic features of the language with considerable sophistication. The usual approach, including that of phonics, has been basically "word-centered"—regardless of whether the units to be deciphered are individual words or clusters of words. However, the development of appropriate speed and comprehension in the act of reading depends more on the learner's reaction to phonological units than to anything else, even though these phonological units are least well represented in most writing systems.

Children who are native speakers of English, however, already control the basic phonological patterns of their language when they begin the primary school task of learning to read. We fail to capitalize on this most important fact when we do not demand of them a reading performance that forces them to correlate the written symbols of the page with the phonological features which would normally accompany sentences in their spoken form.

With learners of English as a foreign language, the objective can be no different, but the conditions under which the learning process must proceed are certainly different. Some control over the patterns of spoken English, especially the intonational and rhythmic patterns, must be expected if the process of reading the English writing system is to be developed

with reasonable skill. This is precisely why the audio-lingual approach to teaching English as a foreign language does *not* exclude reading skill as one of its goals, but rather insists that, in the learning process, skill in speaking English must be achieved *before* skill in reading English can be properly realized. This, of course, does not mean that the two learning activities must be separated in time—only in order of presentation.

Application

In light of what has been said about the nature of the reading process itself and the relationship of phonological patterns to the written representation of utterances, what pedagogical suggestions can now be offered to the teacher of English as a foreign language? Since the mechanics of reading involves the learner's ability to correlate the visual symbols of the writing system with the vocal symbols of speech as automatically as possible, it is clear that an audio-lingual approach to the development of reading skill is indispensable. The term ***oral reading drill*** may be used to designate the kind of reading activity which we are concerned with here, and to distinguish this activity from several other types of reading activity; e.g., timed silent reading for the development of speed through wider eye spansion, reading for vocabulary development or for content goals, etc. The basic procedure for conducting oral reading drill is similar to the mim-mem procedure for teaching the oral patterns of the language, i.e. through imitation of the model set by the teacher and repetition of that model until manipulative control is achieved. The only obvious difference is that, in oral reading drill, the students follow the written text in front of them. Preferably, the sentences to be practiced are those which have already been drilled orally beforehand without texts. A simple procedure can be illustrated as follows:

(Teacher)	I have a notebook in my briefcase.
	/²ay hæ̀və nôwtbùk in mày ³ bríyfkéys¹#/
(Class)	I have a notebook in my briefcase.
(Group I)	I have a notebook in my briefcase.
(Group II)	I have a notebook in my briefcase.
(Student A)	I have a notebook in my briefcase.
(Teacher)	I have a notebook in my briefcase.

With small classes, of course, the group responses may be omitted. After the set of basic sentences has been practiced, the class can then turn to short reading selections of approximately paragraph length. This material may first be presented orally as a listening comprehension exercise. The students then turn to the printed text and the teacher conducts the reading drill essentially as suggested above. The paragraph material will be more interesting, and will also offer variation in the phonological patterns to be practiced. In these materials, it will be especially useful for the teacher to conclude each sentence drill as indicated above, since, by doing so, he then sets the contextual environment for the following sentence. It is in appropriate context, of course, that variations in stress and intonational patterns—and sometimes even in morphophonemic patterns—are best learned. The following sentence should be convincing enough for the purpose of illustration:

17. Fred is the director in Kobe, but John is here.

Given the context of the first clause, a reading of the second clause as:

17a. / . . . |²bət ǰân iz ³híhr¹#/

would be quite incorrect. The reading required by the context of the first clause is:

17b. / . . . |²bət ³ǰán iz²|³híhr¹#/

Notice also that a reading of the first clause allows for either *Fred is* . . . (/frêd iz . . . /) or *Fred's* (/frêdz . . . /), but that we cannot read the second clause with *John's* . . . (ǰânz . . . /).

The goal of oral reading drill is to give the learner practice in interpolating the prosodic features of stress, intonation, and rhythm from the inadequate representation of sentences in the writing system of the language. The ultimate success in developing the learner's ability to read with appropriate speed and comprehension depends very much on the learner's control of the pronunciation, intonation and rhythmic features of the spoken language. These are precisely the features which the native speaker of English already commands when he begins the task of learning to read English in the primary grades. Any approach to the teaching of reading skill which does not capitalize on this prior mastery of spoken

English is both theoretically unsound and practically ineffectual. Control over these same prosodic features, moreover, must be expected of the learner of English as a foreign language if the teaching of reading skill is to have effective results. Any approach to the teaching of reading, therefore, which is not based upon a solid foundation of audio-lingual drill is also both theoretically unsound and practically ineffectual. For these reasons, claims, such as those frequently heard in Japan, that the ability to read English well can be acquired without the ability to speak the language can be regarded as specious. What is meant by such claims is *not* the ability to read English "smoothly", i.e. with automatic correlation of phonological features to graphic devices, but rather the ability to decipher enough words and clusters of words to be able to extract desired information content from the written text. The two activities are quite distinct, and should not be confused.

By way of conclusion, it can be suggested that the whole matter of developing reading skill in a foreign language may be thought of as a three-stage process. The first and most crucial stage is what has here been called *oral reading drill.* At this stage the materials and the teaching techniques should combine the best of both the phonics approach to the teaching of reading to native speakers of English and the audio-lingual approach to the teaching of English as a foreign language. Phonics can contribute the successful procedure of presenting systematically the sound-symbol correspondences of English orthography for the purpose of word recognition. The audio-lingual approach can contribute the indispensable procedure of treating sentences as units of speech, subject to the prosodic features of the English phonological system.

The second stage is one that we may call *controlled reading.* The goals here are those of content and vocabulary expansion and are achieved through the use of reading materials which have been controlled for both grammatical structure and vocabulary.

The final stage is that of *free reading* for the continued broadening of content goals, for exposure to stylistic variation within written English, and for the development of critical abilities in the evaluation of written texts.

This discussion has been confined to a formulation of the theoretical basis for the first stage, i.e. for *oral reading drill*, since it seems quite clear that neglect of this stage must inevitably weaken the chances for genuine success in the later stages.